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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,872	03/24/2004	Mian Ying Wang	10209-476	6611
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KIRTON AND MCCONKIE 60 EAST SOUTH TEMPLE, SUITE 1800 SALT LAKE CITY, UT 84111			LEITH, PATRICIA A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/808,872	Applicant(s) WANG ET AL.
	Examiner Patricia Leith	Art Unit 1655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 October 2009.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) 12 and 13 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-11 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 14 October 2009 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/14/2009 has been entered.

Claims 1-13 are pending in the application.

Claims 12-13 remain withdrawn from examination on the merits, being elected without traverse because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement of 4/6/06.

Claims 1-11 were examined on their merits with regard to the elected species of *Morinda citrifolia* leaf extract.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a previous Office Action.

It is noted that *Morinda citrifolia* may be referred to herein as 'MC' or 'noni.'

Specification

First, the movement of the Drawings from the Specification is acknowledged. The Drawings are now separate from the Specification and labeled as Figures 1 and 2 respectively. However, the amendment to the Specification filed 10/14/2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The first paragraph added after the insertion of '2. Brief Description of Drawings' is New Matter. The explanation of how one is to interpret the drawings was not originally present in the Disclosure as filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

Rejections Removed

The previous Double Patenting rejection instituted over claims 1-8 and 9-11 as being provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No.11/668,035 is hereby removed due to the Abandonment of said '035 Application on 1/22/2010.

Claim Rejections - 35 USC § 103

Claims 1-11 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (US 6,340, 703) in view of Chang et al. (US 2006/00996900 A1) in view of Davis (US 5,708,038) in view of Elkins, R. (1998) in view of Flockhart et al. (WO 9307901 A1) in view of Wang et al. (2002).

Kelly taught that quercetin was a flavonoid known to be estrogenic (see col. 3, lines 21-38).

Kelly did not teach the incorporation of rutin or a leaf extract of MC or MC juice or wherein the MC leaf extract was present in a dermal composition or the particular dosage regimens/amounts of constituents as Instantly claimed.

Chang et al. (US 2006/00996900 A1) taught that rutin was a compound known to bind to the estrogen receptor (see [0068]).

Davis (US 5,708,038) taught that beta-sitosterol possesses estrogenic activity (col. 3, lines 8-20).

Elkins, R. (1998) teaches that MC leaf contains beta-sitosterol (see p. 8).

Flockhart et al. (WO 9307901 A1) taught methods for the systemic transdermal delivery of medicinally active plant extracts (see for example, page 1, last three paragraphs, page 4, last two paragraphs and page 6, last paragraph).

Wang et al. (2002) reported many traditional uses of MC plants (see entire reference, especially pages 1-3). Wang et al. explained that MC juice had been used to treat menstrual difficulties (see specifically, page 2, last paragraph), and further disclosed that MC fruit contained rutin (see specifically, p. 3, fourth full paragraph).

Wang et al. (2002) reported many traditional uses of MC plants (see entire reference, especially pages 1-3). Wang et al. explained that MC juice had been used to treat menstrual difficulties (see specifically, page 2, last paragraph), and further disclosed that MC fruit contained rutin (see specifically, p. 3, fourth full paragraph).

Thus, MC juice is another compound in Applicants claimed list of ingredients which comprises estrogenic compounds and was known to cause estrogenic effects (treatment of menstrual difficulties). As keenly pointed out in previous Office actions, combining ingredients which were all known to be estrogenic (or which have been recognized as containing estrogenic ingredients) is obvious. "Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle." 325 U.S. at 335, 65 USPQ at 301. The ordinary artisan would have had a reasonable expectation that the combination of claimed elements would result in a composition with additive estrogenic effects.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the instant ingredients for their known benefit since each is well known in the art for treating inflammation of mucous membranes. This rejection is based on the well established proposition of patent law that no invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients, *In re Sussman*, 136 F.2d 715, 718, 58 USPQ 262, 264 (CCPA 1943). Accordingly, the instant claims, in the range of proportions where no unexpected results are observed, would have been obvious to one of ordinary skill having the above cited references before him.

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One of ordinary skill in the art would have been motivated to combine rutin and quercetin as well as an MC leaf extract containing beta-sitosterol for inhibiting estrogen production and providing estrogenic effects because quercetin and beta-sitosterol were known estrogenic agents, and rutin was known to bind to the estrogen binding site. Therefore, one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention based upon the combination of the references.

It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F2d 454,456,105 USPQ 233; 235 (CCPA 1955). see MPEP § 2144.05 part II A. It would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to determine all operable and optimal concentrations of components as well as dosage regimens of the claimed components because concentration is an art-recognized result-effective variable which would have been routinely determined and optimized in the pharmaceutical art. Further, if there are any differences between Applicant's claimed method and that suggested by the combined teaching of the prior art, the differences would appear minor in nature.

Further, although the prior art does not specifically state to take the formulation 'before a meal', it is deemed that there is no specific time-limit set forth in the claims.

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Therefore, the MC leaf extract of the prior art must have been taken before a meal, even if it was minutes, hours or days prior to a meal.

Claims which state using the dietary supplement as an 'aromatase inhibitor' or 'to provide estrogenic effects in the body' does not functionally change the method of the claimed invention. It is deemed that the because the product of the prior art and the product of the claims are the same, that the composition would have inherently performed these characteristics and are therefore anticipated by the prior art.

Although the prior art did not specifically teach wherein the MC leaf extract was present in a dermal composition, formulating active ingredients into varying delivery vehicles was routine in the art at the time the invention was made as indicated by Flockhart et al.. Transdermal delivery is well known in the art as a means for transporting active agents across the dermal layers and into the bloodstream. Therefore, the mere addition of a known, medicinally active ingredient into a topical formulation is considered obvious.

Further, it has been held that:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation...103 likely bars its patentability...if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is

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beyond that person's skill. A court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions (see *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Response to Arguments

Applicants' arguments pertaining to this rejection were carefully considered, however, not found persuasive.

Applicants initially argue that the petition filed on 10/14/2009 obviates the instant rejection because granting of said petition would render the rejection moot. However, said petition was dismissed on 4/14/2010 and therefore, this argument is not persuasive.

Applicants argue: "The claimed invention involves ranges, which produced unexpected results...The process for utilizing a leaf extract....have produced unexpected estrogenic affects...[t]he prior art which indicates only that administration of whole foodstuffs containing isoflavones have shown no consistent estrogenic effect. In contrast to the inconsistent results detailed in the cited references, administration of a leaf extract...produced an estrogenic effect nearly 1/2 as potent as that shown by estradiol."

However, arguments of counsel cannot take the place of factually supported objective evidence. See, e.g., *In re Huang*, 100 F.3d 135, 139-40, 40 USPQ2d 1685, 1689 (Fed. Cir. 1996); *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984). Applicants assert that the claimed invention produces an unexpected result, however, there is no evidence of such currently on the record to support Applicants' allegations of an unexpected result. To reiterate from the previous Office action, Applicants' arguments in contention of an unexpected result were carefully considered, however, such contentions are deemed mere allegations absent any side-by-side comparison with beta-sitosterol, a compound already known in the art to be inherent in MC leaf and additionally known to possess estrogenic activity as disclosed by Elkins and Davis. Absent such verifiable proof, Applicant's assertions are unsubstantiated. It is additionally pointed out that in the event that Applicants do convincingly verify an unexpected result, the claims must be commensurate in scope with such results. Hence, while Applicants argue that "The unexpected result that increased concentrations of *Morinda citrifolia* leaf extracts result in an inhibition of enzyme induction," (p. 6, Remarks), the results obtained with the MC leaf extract were 1) obtained with a specific extract of MC leaf and 2) there is no showing of an unexpected result; i.e., a result which would be unexpected or significant and 3) there is no evidence of record to indicate that the MC leaf extract of the claim fairs any better or would out-perform beta-sitosterol, a known estrogenic agent obtainable from MC leaf.

Applicants again argue that Kelly "fails to disclose the claimed ranges of quercetin and rutin, and fails to teach or fairly suggest the unexpected result that higher concentrations of leaf extract result in inhibition of enzyme induction. Kelly indicates that producing a consistent estrogenic effect by administration of isolated biologically active compounds was beyond the reach of one skilled in the art, and that the interplay between various compounds was sufficiently complicated so as to obfuscate from one skilled in the art which combinations of compounds would effectively act to produce the desired estrogenic effects..." (p. 7, Remarks). However, reading on, Kelly states "Even when a positive clinical effect has been obtained, it has been with a mixture of a plurality of isoflavones, as well as a wide range of other unidentified dietary components and other biologically active components – it is known for example that other compounds present in legumes such as flavonoids (e.g. quercetin, luteolin, kaempferol and lignans) also are estrogenic and it is also likely that among the other 700 or so isoflavonoids present in the Leguminosae family there are as yet unidentified isoflavonoids with estrogenic activity" (Col. 3, lines 31-38). Hence, it appears that Applicants have misinterpreted the teachings of Kelly because Applicants' arguments are respectfully out of context with the actual teachings of Kelly. Kelly is teaching that estrogenic effects of natural materials is unpredictable (as recited in the passage cited by Applicants); however, ***Kelly specifically points out that flavonoids such as quercetin are known estrogenic compounds.*** Hence, Applicants' arguments are not found convincing.

Applicant argues that "Kelly indicated that the studies based only on the observation that Japanese women who typically have much high[er] dietary levels of isoflavones compared to women in the western countries, have a purportedly lower incident of acute menopausal syndrome....Kelley [sic] indicated that other studies done to date in this area were highly equivocal and that no consistent effect has been reported. Kelly indicated that it is not know which, if any, of the 700 ...identified isoflavones present in the Leguminosae family may be responsive for any estrogenic effect." (p. 7, Remarks). However, again, Applicants tend to not recognize the fact that Kelly clearly indicates that quercetin is a known estrogenic agent and that Kelly states that it is not known if the *700 other isoflavonoids* in the Leguminosae family are estrogenic." Hence, again, it appears that Applicants are mischaracterizing the teachings of Kelly, who make clear that quercetin is an estrogenic agent. Applicants' arguments which state that "Kelly suggests that there was no reasonable expectation of success, and did not propose a finite number of isoflavones, or other identified predictable solutions" is not found persuasive and sways from the clear fact that Kelly clearly taught that "...it is known for example that other compounds present in legumes such as flavonoids (e.g. quercetin, luteolin, kaempferol and lignans) also are estrogenic." Hence, Kelly teaches that quercetin is an estrogenic agent and Applicants have not convincingly argued or demonstrated that quercetin is *not* an estrogenic agent, and hence, Applicants' arguments are not convincing.

Applicants argue Chang "...fails to disclose the claimed ranges of rutin and quercetin, and fails to teach the unexpected result that higher concentrations cause an inhibition of enzyme induction...Chang's disclosure certainly does not provide insight that would have allowed one skilled in the art to solve the problem posed by Kelly, that administration of biologically active components had failed to produced [sic] consistent desirable estrogenic effects" (p. 8, Remarks).

First, Applicants' rational including Kelly is respectfully found to be without merit because Applicants have mischaracterized the teachings of Kelly as indicated *supra*. While Chang does not disclose the amounts of rutin and quercetin as Instantly claimed, it was keenly established in the previous Office action that the routine adjustment of amounts of known, effective ingredients to incorporate into neutraceutical/pharmaceutical preparations was considered *prima facie* obvious to the ordinary artisan at the time the invention was made. Applicant's argument that Chang fails to teach "...the unexpected result that higher concentrations cause an inhibition of enzyme induction" is unsubstantiated " because first, Applicants have not shown that higher amounts of rutin or quercetin have an unexpected result over the rutin and quercetin of the prior art. Applicants' arguments in contention of an unexpected result on page 6 of the remarks are associated with *Morinda citrifolia* leaf extract, and not with amounts of quercetin or rutin which may provide for an unexpected result. Thus, there is no evidence of record to indicate that the claimed ranges of quercetin or rutin provide for any unexpected estrogenic activity. Also, it is reminded that A rejection under 35

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U.S.C. ' 103 based upon the combination of references is not deficient solely because the references are combined based upon a reason or technical consideration which is different from that which resulted in the claimed invention. *Ex parte Raychem Corp*, 17 U.S.P.Q. 2d 1417. Thus, with regard to Applicants' contentions presented *supra*, as well as Applicants' arguments presented on p. 8 ('The magnitude of the unexpected result, as indicated in the table on p. 23....), the ordinary artisan at the time the invention was made, with the aforementioned references before him/her would have been motivated to combine the Instantly claimed ingredients because they were all known to have estrogenic effects. Thus, the ordinary artisan would have had a reasonable, predictable degree of success in producing the claimed invention; and further, with the prior knowledge that both quercetin and rutin were estrogenic, the adjustment of concentrations of each of rutin and quercetin in neutraceutical/pharmaceutical preparations would have been well within the purview of the ordinary artisan at the time the invention was made.. "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton *KSR 127S*. Ct. at 1742. Again, the evidence presented on p. 23 of the Specification does not exemplify a result which would be 'unexpected' as alleged significant and further, the claims, as they stand, are broad enough to read on the single compound of beta-sitosterol and are not specifically directed toward an ethanol extract of MC leaves.

Applicants argue:

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Kelly's concern with equivcol [sic] results is compounded by Davis' assertion, that even when effective, plant sterols produce only a mild estrogenic effect. Davis discloses that estrogens have been isolated from a number of plant sources and that to date, only three sterols having mild estrogenic activity have been isolated. Importantly, Davis teaches that the estrogenic activity of plant sterols has been estimated to be approximately 1/400 of that recorded for estradiol. Accordingly, not only does Davis fail to disclose the claimed ranges of quercetin and rutin, and the unexpected result that higher concentrations cause inhibition of enzyme induction, but Davis additionally teaches away from the use of plant sterols in favor of estradiol, as the plants produce only a mild estrogenic effect, approximately 1/400 of that recorded for estradiol (p. 8, Remarks).

Again, Applicants' assertions concerning Kelly have respectfully been taken out of context. Furthermore, Applicants' arguments concerning Davis tend to be tangential to the teachings of Davis who specifically teaches that beta sitosterol possesses estrogenic activity. Again, Applicants' arguments pertaining to 'higher concentrations' only pertain to the amount of Morinda citrifolia leaf extract as disclosed in the specification, the specific extract not being explicitly claimed.

Therefore, while Davis discloses the advantageous use of estradiol over other plant sterols, it is clear that 'estradiol' is 'beta-estradiol', the same compound found in MC leaf. Further, as Applicants state, Davis does not specifically teach rutin or quercetin or any other specific plant sterols. Thus, Davis does not 'teach away' from the use of other plant sterols such as rutin or quercetin in any pharmaceutical preparation or their own preparation as asserted by Applicants on pp. 7-8 of the Remarks. On the contrary; Davis is merely reporting the advantageous effects of beta-sitosterol which is not deemed to negate any positive estrogenic effects innately possessed by quercetin or rutin which were already known in the art:

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (See, MPEP § 2123, emphasis added).

Thus, Applicants' arguments pertaining to Davis 'teaching away' from the claimed invention are not accepted.

Further, with regard to the arguments pertaining to Davis, Applicant is again imparting piecemeal analysis to the references; while the rejection is made in view of the combination of the references. It is reiterated that an unexpected result has not been established as Applicants contend.

[If]... there are [a] finite number of identified, predictable solutions, [a] person of ordinary skill in art has good reason to pursue known options within his or her technical grasp, and if this leads to anticipated success, it is likely product of ordinary skill and common sense, not innovation *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 U.S. 2007. From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of

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ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

No claims are allowed.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia Leith whose telephone number is (571) 272-0968. The examiner can normally be reached on Monday - Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patricia Leith
Primary Examiner
Art Unit 1655

/Patricia Leith/
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May 6, 2010